

NASA Academy of Program / Project and Engineering Leadership (APPEL)

Description of Levels Associated with the APPEL Model for System Engineer and Project Manager

In order to determine how to best to proceed after entering the NASA workforce and progress through the technical professional development model it is helpful to understand the definition of each level. The following table is intended to guide to the use of the technical development model for system engineers and project managers.

	Level I	Level II	Level III	Level IV
Levels of Project Leadership	Technical Engineer/Project Team Member	Subsystem or Small Project System Engineer or Project Manager	Major System or Project System Engineer or Project Manager	Program or Large Project System Engineer or Program Manager
Description of Role/ Responsibility	Performs fundamental and routine activities while supporting a Level II-IV system engineer or project manager as a member of a project team	Performs as a system engineer or project manager for a small project or subsystem to a larger effort (e.g. no more than one or two simple internal/ external interfaces, simpler contracting processes, smaller team/budget, shorter duration)	Performs as a system engineer or project manager of a more complex project (multiple distinct subsystems, or other defined services, capabilities, or products) with associated interfaces	Performs as a system engineer or program manager of very large, complex project with multiple internal/ external interfaces
Level of Expertise (LEO)/ Competency	Practitioners have obtained a working knowledge of technical integration, systems engineering and project management concepts and tools and have performed tasks and activities to support and contribute to a project They demonstrate an awareness and understanding of NASA's systems engineering (SE) and project management (PM) tools, techniques, and lexicon..	Practitioners have participated in or led PM activities such as requirements development, budget and schedule development, and risk management and/or will have had sufficient experience and responsibility required to prepare them to lead SE and technical integration activities on a subsystem or small project. They must demonstrate the application of SE /PM tools, techniques, and lexicon at the project subsystem level, including utilization of SE/PM best practices.	Practitioners have taken a significant leadership role in multiple phases of a project life cycle managing both programmatic and technical aspects and/or managing all technical integration and SE functions for a subsystem or small project that would prepare them for a technical leadership role in support of a major system or project They demonstrate the integration of SE/PM tools, techniques, and best practices across subsystems at the project level.	Practitioners will have contributed to Agency goals and be effective in managing programmatic, technical, and strategic interfaces both internal and external to the Agency. They will have demonstrated superior competencies in all formulation and implementation Systems Engineering/Project Management activities.
Validation of Levels	Practitioner's immediate supervisor	Center Peer Group and PMDP/ EDP panel	Center Peer Group and PMDP/ EDP panel	Center Peer Group, PMDP/ r EDP and Agency-wide panels
Learning and Development emphasis	The emphasis at Level I is knowledge and understanding of technical integration, SE and basic project management.	The emphasis at Level II is leadership application and participation in SE/PM.	The emphasis at Level III is the directing, structuring, and integration activities of SE/PM.	The emphasis at Level IV is on the strategy for SE of large complex initiatives and the strategy and management of Agency initiatives.
Required APPEL Systems Engineering (SE) Courses	VMS 100 FOU 100, 120, 150, 160 CL 100, 150 RM 100	ISE 200, 210, 220, 230, 240 Select two from VMS 200-250 RM 200 CL2 200, 250	TBD	TBD
Required APPEL Project Management (PM) Courses	VMS 100 FOU 100, 120, 150, 160 CL 100, 150 RM 100	IPM 200, 210, 220, 290 Select two from VMS 200-250 ISE 200, 220, 230, 240 RM2 200 CL2 200, 250	APM 300, 320, 350 and 370	TBD